Career Prospects

Both in Hong Kong and around the world, a new generation of engineers is needed to meet the challenges of the new era of digital technology. Graduates can develop their careers as industrial engineers, systems engineers, project engineers, product development engineers, manufacturing engineers, logistics engineers, marketing engineers, and cost engineers by undertaking this programme.

Industrial and systems engineers are needed not only for the production of goods and services, but also in transportation, hospitals, banks, IT companies, and government departments.

Further Study Opportunities

After graduation, you can apply for the Senior Year of our bachelor's degree programmes with credit transfer.

September 2020

Enquiries

Academic Matters

Prof. Sandy To
Programme Leader
Phone: 2766 6587
Email: **sandy.to@polyu.edu.hk**

General Enquiries

Ms Rita Wong
Programme Manager
Phone: 2766 7943
Email: **rita.ps.wong@polyu.edu.hk**

Programme Website

https://www.polyu.edu.hk/ise/hdise

The content of this leaflet is subject to review and change which the programme offering department can decide to make from time to time.

Sept 2020

THE HONG KONG POLYTECHNIC UNIVERSITY
香港理工大學

DEPARTMENT OF INDUSTRIAL AND SYSTEMS ENGINEERING
工業及系統工程學系

Higher Diploma in Industrial and Systems Engineering
工業及系統工程學高級文憑

JUPAS Programme Code: JS3117

Programme Aims

Industrial and systems engineering is concerned with the design, improvement and installation of integrated systems of people, materials, information, physical science, and social science. This programme teaches students fundamental engineering concepts, information technology, design, management, communication skills, and the principles and methods of engineering analysis and design. It provides an understanding of the complex problems of modern industrial and business operations.

Programme Characteristics

This programme is a subset of the 4-year BEng (Hons) in Industrial and Systems Engineering programme, and shares the characteristics and subjects related to information systems, human factors, and integrated product and process design.

Programme Structure

During Year One, students receive broad-based engineering education that covers information technology, mathematics and statistics, physics, engineering communication and fundamentals, and practical workshop training.

In Year Two (the Final Year), students study specialized subjects in industrial and systems engineering that cover industrial engineering techniques and methods, quality engineering, control and automation, design and a group project. They can choose two elective subjects to suit their career development aims and personal interests.

Supporting subjects include Language and Communication Requirements subjects and Cluster Area Requirements subjects.

Information on the subjects offered can be obtained at **https://www.polyu.edu.hk/ise/hdise.**

Programme Structure

Year 1*	
Semester 1	**Semester 2**
Basic Mathematics I – Calculus and Probability & Statistics	Fundamentals of Materials Science and Engineering
Information Technology	Basic Mathematics II – Calculus and Linear Algebra
University Physics I #	University Physics II #
Introduction to Physics @	University Physics I @
Engineering Communication and Fundamentals	Engineering Communication and Fundamentals – cont'd

Summer Term*
Appreciation of Manufacturing Processes and Metrology
Computer Proficiency Training

Year 2*	
Semester 1	**Semester 2**
Mathematics I	Industrial Engineering Techniques and Methods
Control and Automation	
Quality Engineering	Quality Engineering
University Physics II @	Electricity and Electronic
Elective 1	Elective 2
Design and Manufacturing Group Project	Design and Manufacturing Group Project – cont'd

Elective subjects:

(Select any TWO from the following subjects)

- Introduction to Logistics Engineering
- Planning of Production and Service Systems
- Material and Processes Selection
- Fundamental of Enterprise Systems
- Product Safety and Reliability
- Engineering Management

Students may be required to take an extra subject in Physics depending on their entry qualifications to meet the graduation requirement.

* *Students also need to fulfill the Cluster Areas Requirement (CAR) and Language and Communication Requirements (LCR) credit requirements*

\# *For students with Level 2 or above in HKDSE Physics/Combined Science with a component in Physics*

@ *For students without Level 2 or above in HKDSE Physics/Combined Science with a component in Physics*

Entrance Requirements for HKDSE applicants

The University's general entrance requirements are Five HKDSE subjects at Level 2 including English Language and Chinese Language.

There is no compulsory subject requirement.

Preferred subjects with the highest weighting for admission score calculation are:

- English Language
- Mathematics
- Biology
- Chemistry
- Physics
- Combined Science: Biology + Chemistry
- Combined Science: Biology + Physics
- Combined Science: Physics + Chemistry
- Information and Communication Technology

The following Applied Learning subjects are recognized for meeting the University entrance requirement and admission score calculation:

- Accounting in Practice
- Applied Psychology
- Automotive Technology
- Aviation Studies
- Business Data Analysis
- Computer Forensic Technology
- Computer Game and Animation Design
- Creative Advertising
- Electrical and Energy Engineering
- Entrepreneurship for SME
- Environmental Engineering
- Health Care Practice
- Interior Design
- Internet of Everything Application
- Jewellery and Accessories Design
- Law Enforcement in Hong Kong
- Marketing and Online Promotion
- Marketing in Global Trade
- Practical Psychology
- Purchasing and Merchandising